PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

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SALICYLATE OF SODIUM IN THE TREATMENT OF DIABETES.

The treatment of diabetes mellitus by salicylate of sodium is by no means novel. Speaking generally, there are two great classes of diabetics. In the first are those on whom the disease falls while they are quite young, with symptoms of great intensity; as a rule, to which at present there are very few exceptions, this form is quickly fatal. The second class includes those who are attacked when they are elderly and of gouty tendencies. In these it may not be very active; they may even become fat while they are suffering from it; they have not much glycosuria or polyuria, and they often do not die from the diabetes itself.

DR. MANSEL SYMPSON reports a case where the salicylic treatment was successful in the more fatal class of cases, that is in the younger and more fatal form. The patient was an engineer's apprentice, seventeen years old, who came under Dr. Sympson's care on April 18, 1891. The family history was not good; he had been a fairly healthy lad until about six weeks before. The urine was very pale, greenish-yellow in tint, limpid, also smelling of apples, very acid, of a specific gravity of 1040, free from albumin, but giving a great deal of sugar. He was passing about seven pints in the twenty-four hours. He was at once put on a mixture of ten grains of salicylate of sodium, five drops of tincture of nux vomica, and an ounce of infusion of gentian, to be taken every four hours. He was also cut off absolutely from sugar, pastry, bread (save well-baked toast), and biscuits, and of course from potatoes and starchy vegetables.

In the first week his water became gradually reduced in quantity, from seven to five and a quarter pints in the twenty-four hours, while its specific gravity varied from 1050 to 1040, the amount of sugar remaining about the same, or decreasing a very little. His medicine was only given *sextis horis* at the end of the first week. He suffered a good deal with headache, which was relieved by the salicylate and by citrate of caffeine. By the middle of the second week he was on strict diet, gluten bread, almond cakes, etc., with no starch or sugar in any form. His urine was greatly improved, only three pints being passed in the twenty-four hours, of specific gravity 1024, and containing by Dr. Oliver's test a little over five grains to the ounce. His thirst was lessening, headache had vanished, and his sense of satisfaction with both meat and drink was increasing. About the twelfth day of treatment he was passing about two pints of urine, of specific gravity 1014, with a mere trace of sugar. In six more days there was no sugar at all in his water. On April 10th, having been without medicine for four days, passed about half a pint more water daily, and had suffered from a slight return of the headache. On May 18th had been again off the salicylate mixture for three days, with the result that he passed just twice as much water daily as he had done before. He complained also a little of pains in his back when without the medicine. Since May 19th his water had never been over two and three-quarters pints; it had never contained any trace of sugar; and on June 24th it was acid, specific gravity 1025, no albumin or sugar.

When the patient was on a mixed diet at the very beginning of treatment, salicylate of sodium made a difference of nearly two pints per diem in the amount of water passed; again, when he was on strict diet, the temporary cessation of the medicine on two occasions caused him each time to pass nearly double as much water as he did before or since, and gave him much uneasiness and more desire to micturate.

It may be due to the salicylate that the urine became free from sugar and kept so; it is, however, to be borne in mind that the effect of diet in some cases is marvellous, and the case cannot be considered as cured until the patient has been without the medicine again for some considerable time, and has had a mixed diet without showing evidence of glycosuria.

The action of salicylate of sodium in this case is well worth recording; the more of such cases which are known the more encouraging this method of treatment will be.—*Practitioner*, No. 278, 1891.

THE TREATMENT OF EPILEPSY BY THE COMBINED USE OF BROMIDES AND SOME AGENT CAPABLE OF PRODUCING ANÆMIA OF THE NERVOUS CENTRES.

POULET'S conclusions, as given in the *Bulletin général de Thérapeutique*, are as follows:

The bromides constitute the basis of the treatment of epilepsy. Among them the bromide of gold does not possess the advantages ascribed to it by some, and must yield the palm to the bromide of potassium. There are always a number of cases of epilepsy which though benefited by bromide treatment are not as efficiently treated as they admit of being.

In such cases the addition of one of the following drugs—Calabar bean, picrotaine, belladonna, and, in cardiac epilepsy, digitalis—will frequently bring about the desired result, viz., the suppression of the attacks. This will hold in general for epilepsy, pure and simple, as well as for many cases of Jacksonian epilepsy, though in this latter disease the search for the exciting cause, and its removal where possible, must always precede the above palliative treatment. In cardiac epilepsy twenty-four to thirty drops of the tincture of digitalis, or about four grains of the powder may be given along with the bromides.

ANTIPYRINE IN THE TREATMENT OF PLEURAL EFFUSIONS.

CLEMENT, in the *Lyon Médical*, commends the value of antipyrine in the treatment of acute and chronic pleural effusions. The drug to be effective must be given in doses of about fifteen grains every four hours, and continued in somewhat smaller doses for several days *after* the disappearance of the effusion, a result which he states may be expected in from one to four days. Purulent or bloody effusions are not favorably affected, and when the pleural cavity is completely filled, Clement prefers immediate resort to paracentesis. He is at a loss to explain this singular effect of the drug upon any other ground than its specific action upon inflammatory processes, the kidneys or skin never having shown sufficient over-activity to account for the rapid subsidence of the effusion.

DEATH UNDER METHYLENE.

DR. EDWARD CHAMBERLAYNE recently administered methylene for an operation for the removal of a cancer of the breast. It was slowly given in a Junker's inhaler, and the inhaler was removed from time to time. Besides the supply of air through the valves of the inhaler, there was a space, owing to the falling in of the cheeks, easily admitting the tips of two fingers, on each side of the mouth between the mouth and the inhaler. All went well until about twenty minutes after the administration was begun, when the patient began to heave as if to vomit. The apparatus was at once removed; the heaving lasted a minute and a half, after which she made several deep inspirations of air. A moment later respiration suddenly ceased. Artificial respiration was instantly begun, and kept up for an hour and twenty minutes; it was then decided that the case was hopeless. Six injections of ether and three enemata of brandy had previously been used. About three drachms of methylene were used. There was no post-mortem; her heart had been frequently examined by her medical attendant, and was believed to be healthy. —*Lancet*, 1891, No. 3548.

A NEW ANTISEPTIC.

No sooner is one antiseptic chemical rejected by some disappointed disciple of antisepticism, than he is greeted by a new chemical possessing all the virtues and free from all the vices of its predecessor. DR. BERLIOZ now presents to the Parisian Academy of Medicine a new chemical which already has proved itself worthy, if we accept the statements of its advocates, of general recognition as the best of antiseptics. He names it "Microcidine" —a name to which it is hardly entitled, seeing that its germicidal powers are inferior to those of corrosive sublimate.

According to Professor Polaillon, the new drug is not a definite chemical compound, but rather a mixture of β-naphthol and hydroxylate of sodium. This new product is soluble in three times its weight of cold water, the solution being of a brown color, which disappears on dilution. The chief advantages claimed for this, the latest of antiseptics, was its slight cost and its nonpoisonousness. As it is eliminated by the kidneys, it should be found useful in cases of chronic cystitis with fetid urine. The value of the naphthols α and β in the tympany of typhoid is well known, and as microcidine is simply a product of the fusion of β-naphthol with the hydroxylate of sodium, it should prove useful in such cases.—*Medical Press*, September 16, 1891.

The Toxic Dose of Oil of Turpentine.

The daughter of a former Hawaiian missionary states that the natives are so fond of drink that the native house-painters will drink oil of turpentine for its intoxicating effect when they are unable to obtain any other stimulant. They have been known to drink as much as a pint at a time. From this statement it would appear that the toxic dose of this substance is far beyond any dose dreamed of by therapeutists.—*New York Medical Journal*, 1891, No. 25.

A New Mode of Administering the Bromides.

In Paris the pharmacists have been astonished by the increasing number of prescriptions wherein the bromides are combined with naphthol and bismuth. This is simply carrying out suggestions made by **Professor Féré**, that large doses of the bromides tended, in certain individuals, to beget unpleasant symptoms, chiefly for the reason that the gastro-intestinal tract of such persons was in a condition of sepsis that prevented the proper assimilation of the drugs. He recommended the administration of such intestinal antiseptics as naphthol and salicylate of bismuth as a means of removing drug intolerance from this and from other causes. The following formula is one method found by him to be advantageous, in the treatment of epileptics especially:

℞.—Bromide of potassium	ʒiss.
β-naphthol	ʒj.
Salicylate of sodium	ʒss.

Mix, and divide into three doses, one dose to be given three times daily.

It is maintained by Féré that this treatment is curative as well as preventive. He has found that the eczema and psoriasis which sometimes follow in the train of borax will also disappear if the intestinal tract is rendered aseptic.

Peroxide of Hydrogen in Diseases of the Eye.

The following is a summary of the conclusions of **Dr. S. S. Golovin** regarding the use of peroxide of hydrogen in ophthalmic practice:

In healthy eyes the peroxide causes only trifling smarting and transient congestion of the conjunctiva. In diseased eyes, especially when deep corneal ulcers are present, instillation of the peroxide may give rise to a more or less intense burning sensation, which, however, quickly disappears spontaneously.

A reliable preparation should always be employed. The peroxide solutions are somewhat unstable, but decomposition can easily be prevented by the addition of a small quantity of sulphuric ether, and by keeping the mixture in an opaque glass in a dark place. A 3 per cent. solution may be employed for lotions or irrigations; stronger solutions should be used in the form of eye-drops.

℞.—Hydrogenii hyperoxydati (10 to 15 per cent.) . ℥iss.
Ætheris sulphurici . . . . gtt. j.
(Keep in a bottle of dark glass.)
Sig.—A few drops to be instilled into the eye several times a day.

The best results are obtained in corneal affections. Simple ulcers of the membrane rapidly disappear without being complicated with purulent infiltrations. Suppurating ulcers speedily assume a cleaner and healthier appearance, infiltrations undergo absorption, the lesions healing without perforation of the cornea occurring. Even in severe cases the only traces remaining at the site of the ulcers are slight opacities corresponding to the deepest portion of the excavation. The peroxide is also invaluable in cases of hypopyon keratitis. Provided the instillations are made regularly and thoroughly, even cases in which otherwise operative interference would be necessary, yield to the remedy.

Of conjunctival affections, the peroxide is especially of service in cases of phlyctenular conjunctivitis, which is cured by it much more rapidly than by ordinary treatment. It is also useful in the early stages of acute gonorrhœal ophthalmia (in which the instillation should be repeated not less than four or five times daily, or even every two hours), though the effects scarcely go beyond sterilizing the discharge and preventing or controlling corneal lesions. In simple acute and chronic diffuse catarrhs of the conjunctiva, as well as in trachomatous or follicular conjunctivitis, the peroxide seems to be useless.

[Much of the peroxide sold in this country is acid in reaction, and would be unsuitable to be dropped into the eye unless neutralized, in which case it keeps less well than when its reaction is acid.—ED.]—*British Medical Journal*, 1891, No. 1599.

THE METHODICAL EMPLOYMENT OF SULPHONAL IN MENTAL DISEASES.

DR. FORSTER publishes his experience with fifty-six patients of the Königsmutter Institution. He was much pleased with the result. The drug acted principally as a motor depressant. Noisy, obstreperous patients were quieted down; many who were given to soiling themselves, ceased to do so. This condition of restfulness was induced in excitement stages of acute and chronic insanity, periodical and chronic mania, senile dementia, progressive paralysis, idiocy, and epilepsy. Thirty grains were generally sufficient, but as much as sixty were sometimes given. The single dose was from seven and a half to fifteen grains. In periodical excitement, given continuously, it shortened and ameliorated the period of excitement. It was of special value in acute melancholia and insanity. Epileptic attacks were not so violent; a cure of the epilepsy was not achieved.

He observed two forms of disagreeable by-effects, called by him sulphonalismus. The first was a motor and sensory depressive form, that appeared as paretic weakness, at first of the lower extremities, then of the tongue and upper extremities. The other form was a persistent somnolency, and a diminution of sensation, weakening, or extinction of the cutaneous sensibility. The first stage of this was not dangerous, but the second required careful observation. The symptoms disappeared quickly on reduction of the dose of sulphonal. The pulse was generally regular and powerful. Neither respiration nor the uro-genital system was injuriously affected. Disturbances of the digestive tract were, however, observed twice, with an exanthem. Tolerance of the drug was never observed, so that, unlike morphine, it can be discontinued at any time.—*Medical Press*, 1891, No. 2730.

OXYGEN AS A DISTINCT REMEDY FOR DISEASE, AND A LIFE-SAVING AGENT IN EXTREME CASES.

On this subject, DR. A. W. CATLIN contributes an article, and cites cases where oxygen has been used with advantage. Primarily, and for a long time exclusively, this agent has been recommended in lung difficulties—more especially to relieve the dyspnœa and cyanotic conditions following in the train of a pneumonia, where a large amount of lung-structure is involved: another way of stating the fact that its use was deferrred until the disease was far advanced, the strength exhausted, and the recuperative powers in abeyance—in other words, a *dernier ressort*, as a palliative, but not as a curative.

Fortunately, however, for our patients, another view is now taken of this life-saving agent, and to-day we recognize the fact that if we can, with a limited lung-capacity in acute disease, pass more or less continuously the same quantum of oxygen into the blood that is normally required when no disease is present, we practically lift our patient to the plane of health, so far as functional activity is concerned, and give him a hundred-fold more strength to battle with than before.

Dr. Catlin desires to show that oxygen is the most sure and satisfactory stimulant we have; that by being exhibited through the lungs, and not by the stomach, its entrance into the circulation is much more certain and immediate; that its effect, felt primarily upon the heart, is almost as quickly seen at the nerve centres and in the digestive organs; that it is preëminently the remedy for profound shock, either from hemorrhage or nervous drain, where vitality is at too low an ebb to take up the intricate history of assimilation and repair.

To get the best results the remedy must be administered at first freely and continuously, especially in those cases of profound shock where the depleted centres of life must have this true stimulation offered unremittingly. The only indications for a suspension of its use is a condition at once recognized by the patient, viz., super-exhilaration and dizziness, and this limitation is rarely reached in these extreme cases where the inhalations are not as deep or prolonged as they are when the strength returns and the demand for the stimulant naturally begins to limit itself. In other words, the patient, once instructed in its use and conscious of its helpfulness, is the best guide in its administration, and can be safely allowed to breathe it *ad libitum*. The fear is they will not get enough, not that they will get too much. This, of course, implies that the pure gas mixed with nitrogen, two parts of the former to one of the latter, is being used.

There are many conditions under which oxygen can be exhibited, always with relief, even if the nature of the case is necessarily fatal. It is no small thing to say that it relieves needless suffering.

The objection so often raised to it as a cumbersome remedy, not easily obtained on short notice, no longer holds, for depots are established all over our large cities.—*Medical Record*, 1891, No. 1086.

DIURETIN.

Von Schröder found that both caffeine and theobromine had a marked diuretic action, and that caffeine had also an undesirable influence upon the brain and vasomotor centres. The fact that theobromine acted only upon the kidneys induced CHR. GRAM (*Therapeutische Monatshefte*, 1890, No. 1) to make clinical trials of its diuretic action. It was, however, soon found to have disadvantages; since it is only slightly soluble, it sometimes caused vomiting. After many attempts, Gram succeeded in finding a compound of theobromine which had not these disadvantages; this was a combination of a sodium salt of theobromine with salicylate of sodium, to which was given the name diuretin. This substance is soluble in water. The dose is fifteen grains, and this amount may be given six times a day. The diuresis after two or three days is marked, and it continues for a time after the withdrawal of the drug. If albumin is present, its amount is unchanged by the drug.

It will act as a diuretic in some cases where digitalis, caffeine, and strophanthus have failed. It has no cumulative action; the system is not readily rendered unresponsive to its action. It may be given with cardiac tonics.

The conclusions of DR. GEISLER are that diuretin unquestionably increases the blood-pressure, as he has found no exception to this in all of the few cases included in his observations, and he feels bound to include the drug among the cardiac stimulants, as well as among diuretics.

In patients with valvular disease its action was most satisfactory; less so in affections of the heart's muscle. In the latter cases its action was that of a diuretic chiefly.

In acute nephritis its action was much greater than in chronic nephritis, as shown by the increase in the urine and the rapid disappearance of the œdema.

In one case of cirrhosis of the liver it caused no diuresis; in a healthy person it increased somewhat the twenty-four hours' urine.

It is probable that the salicylate of sodium also contributes to the diuretic action, and that this is not the result of the theobromine alone.—*Berliner klinische Wochenschrift*, 1891, Nos. 16 and 17.

DR. AUG. HOFFMANN has found diuretin an energetic diuretic, especially in cardiac dropsy; it reaches its maximum effect on the second to the sixth day. As regards its action upon the heart he is not in accord with Schröder or Gram, since he finds the heart's action is made more regular and stronger by it; as a substitute for digitalis it will not answer, though it may well be given with it.

As a substitute for caffeine, as a diuretic, it will be found serviceable.

It is best given in solution, since it will not keep in the form of powder when exposed to the air for some time.

The carbonic acid of the air decomposes diuretin into insoluble theobromine. Fifteen grains in a tablespoonful of water, or—

℞.—Diuretin . . . . ʒjss.
Aq. menthæ pip. . . . . . . ℥iij.
Syr. simpl. . . . . ℥j.
Sig.—One tablespoonful five or six times a day.

All acid solutions and fruit syrups are to be avoided in prescriptions containing diuretin. In all cases it is best to have the solutions freshly made, as they decompose after a few days.—*Therapeutische Monatshefte*, 1891, No. 5.

DEATH AFTER SALOL.

Salol is usually considered a tolerably innocuous drug, but there are not wanting clinical observations which tend to show that, under certain circumstances at least, its use may be followed by dire results. Thus a case was some time ago reported by Aufrecht and Behm, in which death followed its use in acute endocarditis, and more recently DR. CHLAPOWSKI has published in a Bohemian medical journal an account of a case in which a similar fatal result followed a fifteen-grain dose ordered to a patient who was suffering from severe gastric symptoms, and who was being examined by Ewald's method. After taking the salol the patient became restless and unconscious, the pupils dilated, the pulse became irregular, there was constant vomiting, and the urine became dark and contained salicylic acid. Death occurred twelve days later. At the autopsy there were found gastritis and hemorrhagic enteritis, a gastric ulcer cicatrized at the cardiac end, chronic endometritis, and a cyst of the ovary. No doubt was entertained that the salol had caused the symptoms of poisoning.—*Lancet*, May 23, 1891.

[In such cases the early use of the soluble phosphates, such as Glauber's salt, should not be omitted.—ED.]

HYPODERMIC INJECTIONS OF CARBOLIC ACID IN ACUTE ARTICULAR RHEUMATISM.

In 1875 Senator published a paper in which he pointed out that marked alleviation of the local and some amelioration of the general symptoms quickly followed the hypodermic injection of a strong solution of carbolic acid into the neighborhood of the affected joints. This was accomplished without any appreciable ill effects to the patient.

DR. A. L. GILLESPIE has tried this treatment in about twenty-four cases, and publishes notes of five of them.

He injected from four to ten minims of a 10 (?) per cent. solution of carbolic acid. [As carbolic acid is not sufficiently soluble in water to make a

10 per cent. solution, some other solvent must have been added to the water. —Ed.]

A grain of the pure acid may be given at a dose.

In some cases the relief is speedily afforded, and the patients often begged for a repetition of the injection when another joint became painful.

It is said to be of special value in cases of gonorrhœal rheumatism in which no relief has followed the use of salicylates, but does not seem to act so well when many of the joints are affected.

It is best to pass the point of the hypodermic needle through the skin obliquely, and judging where the synovial membrane is, to inject the fluid as close outside the sac as possible.

Injected into the sac itself a 10 per cent. solution of carbolic acid precipitates the albumin present in the serous contents.

The *rationale* of the rapid disappearance of all the symptoms is, first, that it is due to the powerful local anæsthetic action of the acid; secondly, to some slight specific action against the rheumatic poison exerted by it.—*Medical Press*, 1891, No. 2719.

MEDICINE.

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Malaria on the Gold Coast.

Dr. W. T. Prout, in *The Practitioner*, No. 291, 1891, states that the varieties of malaria met with on the Gold Coast of Africa are the same as elsewhere, but there is a tendency toward irregularity and severity in type, especially among Europeans. Well-marked quotidian, tertian, and quartan ague is rare, and met with among natives or in Europeans who have been long resident on the Coast, in whom the type approximates more closely to that observed in the native. In such cases the attack is essentially mild, of sudden onset, with shivering or chilliness, rapid rise of temperature to 104° or 105°, with headache, lumbar pain, etc., followed by a copious sweat and return to health on the next day. In natives, constipation and hepatic torpor are frequently associated, and the attack can be cured by a dose of blue pill. In newly arrived Europeans the attack is usually more severe, and comes under the head of bilious remittent. The cold stage is usually not observed, nausea is invariably present, and frequently vomiting forms a dangerous symptom.